FRONZ / ONTRACK

APPROVED CODE OF PRACTISE
FOR
HERITAGE NETWORK OPERATORS

Mechanical Supplementary Code B3.4.2.03

Crank Pins

Issue	Prepared (P), Reviewed (R), Amended (A)	Approved by	Effective Date
1	P McCallum (P)	Heritage Technical Committee	27 June 2006

Reference Material

Source	Description	Date
NZ Railways	Mechanical Branch Code No 10, Issue 3	31/3/1967

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Amendment History

Version	Section	Amendment

Crank Pins

1 Introduction

This Supplementary Code relates to:-
B3.1.1.01- Mechanical Code Of Practice, Section 3.16.4 - Crank Pins

It contains:-

- NZ Railways Mechanical Branch Code No 10 - Crank Pins; Issue 3 of 31/3/1967

which contains information relevant to the manufacture, installation, turning and condemning sizes of locomotive crank pins. Operators are to use those sections that are relevant to their operation.

NEW ZEALAND GOVERNMENT RAILWAYS **MECHANICAL BRANCH**	**CRANK-PINS**	**CODE No. 10** Issue No 3 Date Issued 31/3/67

(1) MANUFACTURE:

Crank-pins are to be turned from the type of steel shown on drawing W16298.

When turning a crank-pin, allowance is to be made for a final truing by grinding in a quartering machine after the pin is pressed into position.

(2) TREATMENT:

Crank-pins are not to be hardened by any process, unless specially instructed.

(3) PRESSING:

A pressure of 10 tons per inch of crank-pin seating diameter, with a tolerance of ± 5 tons on the total pressure, is to be used for pressing in crank-pins when fully lubricated with tallow which is the only lubricant to be used.

The pressure curve recorded on the press chart is to be endorsed with the Workshops serial number and locomotive number if not a "spare". All particulars shall also be entered in the Loco/76 register (see Mechanical Branch Code No.4, clause 12).

Shimming or interfering with the mating surface to alter the pressing-in tonnage is not permitted.

(4) BRANDING:

Every crank-pin is to have the following particulars stamped on the inner end.

Manufacturers name or initials	Shop symbol and serial number
W.R. number	Month and year fitted
Fitting pressure in tons	

To permit ultrasonic testing the outer end is to be finally finished with a flat and smooth surface.

(5) CONDEMNING SIZE:

The condemning sizes of crank-pins are set out on drawing Y21194 (steam locomotives) and Y21875 (diesel shunting locomotives and tractors).

(6) LAST GRINDING SIZE:

The last grinding size of a crank-pin bearing shall be not less than 0.05in larger in diameter than the condemned size.

(7) WEAR:

Crank-pins are not to remain in service when a bearing is more than 0.05in, out of round, or out of parallel, and shall be ground true in a quartering machine.

When a locomotive or a rail shunting tractor is undergoing a full overhaul or when wheelsets are being retyred all crank-pins are to be ground on a quartering machine but at retyring jackshafts are not to be specially removed for the grinding of crank-pins.

(8) TESTING AND INSPECTING:

When a locomotive or a rail shunting tractor is undergoing a full overhaul, or when wheelsets are being retyred, all crank-pins including those in the jackshaft are to be ultrasonically tested. When connecting or coupling rods are removed at locomotive depots, crank-pins are to be closely inspected for defects. No crank-pin shall be permitted to remain in service if a defect is apparent or suspected.

(9) SEATING OF CRANK-PINS:

When crank-pins are pressed out for renewal at a full overhaul their seatings are to be checked for quarter. Should the seatings be found to be out of quarter, they shall be corrected by grinding.